

## CLAIMS

What is claimed is:

1. An apparatus comprising:
  - 2 a grip; and
  - 3 a binocular digital display assembly coupled to the grip and rotatable
  - 4 about the grip between a plurality of angular positions which can be maintained during
  - 5 use.
  
- 1 2. The apparatus of Claim 1 wherein the binocular display assembly  
comprises:
  - 3 a first lens;
  - 4 a first display element disposed to be a focal distance from the first lens  
when the display assembly is in a deployed orientation;
  - 5 a second lens; and
  - 6 a second display element disposed to be a focal distance from the second  
lens when the display is in a deployed orientation.
  
- 1 3. The apparatus of Claim 2 wherein the display elements are one of liquid  
crystal displays (LCDs), organic light emitting diode (OLED) displays, Liquid Crystal  
On Silicon (LCOS) displays, electroluminescent (EL) displays, and retinal scan lasers.
  
- 1 4. The apparatus of Claim 1 wherein the display assembly has a stowed  
orientation and a deployed orientation and wherein when in the stowed orientation, at  
3 least 25% of a deployed volume of the display assembly overlaps with a volume of the  
4 grip.
  
- 1 5. The apparatus of Claim 4 further comprising:
  - 2 a self powered expander which when actuated expands the display
  - 3 assembly from its stowed volume to its deployed volume.
  
- 1 6. The apparatus of Claim 4 further comprising:
  - 2 a self powered positioner which when actuated transitions the display
  - 3 assembly from its stowed orientation to its deployed orientation.

1           7. The apparatus of Claim 1 further comprising:  
2            a lens assembly coupled to the grip; and  
3            an image sensing array (ISA) optically coupled to the lens assembly.

1           8. The apparatus of Claim 7 further comprising:  
2            a sensor to detect a position of the display assembly relative to the ISA  
3            and cause an adjustment to an image displayed on the display assembly based on the  
4            position to maintain a consistent orientation of a target on the display.

1           9. The apparatus of Claim 1 further comprising:  
2            a distributed network interface coupled to the display assembly.

1           10. The apparatus of Claim 7 wherein the binocular display assembly  
2           comprises:  
3            a photographic light source.

1           11. The apparatus of Claim 7 wherein the binocular display assembly  
2           comprises:  
3            a photographic light source positioned sufficiently far from the lens  
4           assembly to reduce illumination errors.

1           12. The apparatus of Claim 7 further comprising:  
2            a trigger to cause a capture by the ISA, the trigger disposed on the grip to  
3           allow actuation by an index finger of a hand holding the grip.

1           13. The apparatus of Claim 12 wherein any actuation of the trigger causes a  
2           capture.

1           14. The apparatus of Claim 1 further comprising:  
2            a pointer button coupled to the grip to provide an interface for user  
3           manipulation of a pointer within the display.

1           15. The apparatus of claim 14 wherein the pointer button is disposed to allow  
2           actuation by the thumb of a hand holding the grip.

1           16. The apparatus of Claim 1 wherein the pointer button is only accessible  
2 when the grip is in a deployed orientation.

1           17. The apparatus of Claim 14 wherein the pointer button resides within a  
2 region and wherein a position of the pointer button within the region is absolutely  
3 mapped to the display.

1           18. The apparatus of Claim 1 wherein the trigger and the pointer button  
2 provide access to substantially all user controls without the need for other buttons.

1           19. The apparatus of Claim 1 wherein the apparatus defines a plurality of  
2 memory card slots.

1           20. The apparatus of Claim 7 further comprising:  
2               a plurality of memory card interfaces to permit a plurality of memory  
3 cards to be concurrently attached and electronically selected by the apparatus.

1           21. The apparatus of Claim 1 wherein at least a first position is suitable for  
2 right handed use and at least a second position is suitable for left-handed use.

1           22. The apparatus of Claim 1 wherein in the deployed orientation, the grip  
2 may pivot to at least one self maintaining position on an axis orthogonal to an axis of  
3 rotation of the display assembly.

1           23. The apparatus of Claim 1 further comprises:  
2               a visor coupled to the housing and to rest upon a forehead of the user  
3 when held by a user for use, the visor having a cross-dimension selected to maintain a  
4 predetermined focal distance between the first lens and an eye of the user, the visor  
5 pivots coupled to the display assembly to pivot between an open and a closed position.

1           24. The apparatus of Claim 23 wherein pivoting the visor to the open position  
2 activates the display.

1           25. The apparatus of Claim 23 wherein when the visor is in the closed  
2 position, the display is in an inactive state.

1        26. The apparatus of Claim 23 wherein the visor protects a lens of the display  
2 assembly when in the closed position.

1        27. The apparatus of Claim 24 further comprising:  
2            a timer that times out after a predetermined time during which no display  
3 event occurred, the time out causing the display to deactivate; and  
4            wherein cycling the visor activates the display.

1        28. An apparatus comprising:  
2            a grip having a stowed orientation and a deployed orientation; and  
3            a digital display assembly having a stowed orientation and a deployed  
4 orientation, such that, in the deployed orientation, the display is laterally displaced  
5 relative to the grip such that, in use, a hand holding the grip is laterally displaced  
6 relative to a frontal face of a head of a user.

1        29. The apparatus of 28 wherein in the stowed orientation at least 25% of a  
2 deployed volume of the display assembly overlaps with a volume of the grip.

1        30. The apparatus of Claim 28 further comprising:  
2            a pointer button coupled to the grip to provide an interface for user  
3 manipulation of a pointer on the display, wherein, the pointer button is only accessible  
4 when the grip is in the deployed orientation.

1        31. The apparatus of Claim 28 further comprising:  
2            a sensor to detect relative rotation of the display assembly and to signal  
3 the display to adjust an image on the display to maintain a consistent orientation of an  
4 image displayed.

1        32. The apparatus of Claim 28 further comprising:  
2            a self powered expander which when actuated expands the display  
3 assembly from its stowed volume to its deployed volume.

1        33. The apparatus of Claim 28 further comprising:  
2            a self powered positioner which when actuated transitions the display  
3 assembly from its stowed orientation to its deployed orientation.

1           34. The apparatus of Claim 28 further comprising:  
2            a lens assembly coupled to the grip; and  
3            an image sensing array (ISA) optically coupled to the lens assembly.

1           35. The apparatus of Claim 34 further comprising:  
2            a sensor to detect a position of the display assembly relative to the ISA  
3            and cause an adjustment to an image displayed on the display assembly based on the  
4            position to maintain a consistent orientation of a target on the display.

1           36. The apparatus of Claim 28 further comprising:  
2            a distributed network interface coupled to the display assembly.

1           37. The apparatus of Claim 36 further comprising:  
2            a photographic light source.

1           38. The apparatus of Claim 36 further comprising:  
2            a photographic light source positioned sufficiently far from the lens  
3            assembly to reduce illumination errors.

1           39. The apparatus of Claim 36 further comprising:  
2            a trigger to cause a capture by the ISA, the trigger disposed on the grip to  
3            allow actuation by an index finger of a hand holding the grip.

1           40. The apparatus of Claim 28 wherein in the deployed orientation, the grip  
2            may pivot to at least one self maintaining position on an axis orthogonal to an axis of  
3            rotation of the display assembly.

1           41. The apparatus of Claim 31 wherein in the deployed orientation, the grip  
2            defines an first acute angle away from a body of an operator to permit comfort and  
3            reduce stress on the hand and arm.

1           42. The apparatus of Claim 41 wherein any actuation of the trigger causes a  
2            capture.

1       43. The apparatus of Claim 28 wherein the pointer button resides within a  
2 region and wherein a position of the pointer button within the region is absolutely  
3 mapped to the display.

1       44. The apparatus of Claim 28 wherein the trigger and the pointer button  
2 provide access to substantially all user controls without the need for other buttons.

1       45. The apparatus of Claim 28 wherein apparatus defines a plurality of  
2 memory card slots.

1       46. The apparatus of Claim 36 further comprising:  
2               a plurality of memory card interfaces to permit a plurality of memory  
3 cards to be concurrently attached and electronically selected by the apparatus.

1       47. The apparatus of Claim 28 further comprises:  
2               a visor coupled to the housing and to rest upon a forehead of the user  
when held by a user for use, the visor having a cross-dimension selected to maintain a  
predetermined focal distance between the first lens and an eye of the user, the visor  
pivots coupled to the display assembly to pivot between an open and a closed position.

1       48. The apparatus of Claim 47 wherein pivoting the visor to the open position  
activates the display.

1       49. The apparatus of Claim 47 wherein when the visor is in the closed  
2 position, the display is in an inactive state.

1       50. The apparatus of Claim 47 wherein the visor protects a lens of the display  
2 assembly when in the closed position.

1       51. The apparatus of Claim 48 further comprising:  
2               a timer that times out after a predetermined time during which no display  
3 event occurred, the time out causing the display to deactivate; and  
4               wherein cycling the visor activates the display.

1       52. A camera comprising:  
2           an image sensing array (ISA);  
3           a lens assembly; and  
4           a plurality of memory card slots to which a plurality of memory card  
5       devices can be concurrently attached and selected electronically.

1       53. The camera of claim 52 wherein at least two of the memory card slots  
2       accept a same media type.

1       54. An apparatus comprising:  
2           a binocular display assembly;  
3           an execute input interface; and  
4           a pointer interface providing absolute mapping between a pointer button  
5       and a display of the display assembly wherein substantially all functions of the  
6       apparatus can be accessed using only the pointer interface and the execute input  
7       interface.

1       55. A handheld apparatus comprising:  
2           a housing defining a first opening;  
3           a digital display disposed within the housing;  
4           a first lens disposed to be between a first eye of a user and the display  
5       when in use; and

6           a visor coupled to the housing and to rest upon a forehead of the user  
7       when held by a user for use, the visor having a cross-dimension selected to maintain a  
8       predetermined focal distance between the first lens and an eye of the user.

1       56. The apparatus of Claim 55 further comprising:  
2           a second lens disposed to be between a second eye of the user and the  
3       display when in use such that a binocular view is presented to the eyes of the user.

1       57. The apparatus of Claim 55 wherein the visor is pivotally coupled to the  
2       housing to pivot between an open position and a closed position.

1        58. The apparatus of Claim 55 wherein the cross-dimension is adjustable  
2 within a range.

1        59. The apparatus of Claim 55 wherein the visor is coupled to the housing so  
2 as to block some ambient light from the eye of the user when the apparatus is in use.

1        60. A handheld apparatus comprising:  
2            a housing;  
3            a display within the housing to display a virtual keyboard; and  
4            a first and a second user input device, each independent of the other and  
5 concurrently operable to activate keys on the virtual keyboard.

1        61. The apparatus of Claim 60 further comprising:  
2            a first and a second detector coupled to the first input device and the  
3 second input device, respectively, to detect when a user is in contact with the respective  
4 device.

1        62. The apparatus of Claim 61 wherein the display displays a virtual  
2 keyboard when both sensors detect contact.

1        63. The apparatus of Claim 61 wherein the display displays a mouse cursor  
2 when only one detector detects contact.

1        64. The apparatus of Claim 60 wherein when the keyboard is displayed, a  
2 location indicator for each user input device is simultaneously displayed; and  
3            wherein when the location indicator overlaps a key on the keyboard, the  
4 key is highlighted.

1        65. The apparatus of Claim 60 wherein the position of at least one of the first  
2 input device is absolutely mapped to a first location on the display and the second  
3 input device is absolutely mapped to a second location on the display.

1        66. The apparatus of Claim 65 wherein the first location is in a first subsection  
2 of the display and the second location is in a second subsection of the display and  
3 wherein the first subsection and the second subsection do not overlap.

1       67. The apparatus of Claim 60 further comprising:  
2            a first and a second activator coupled to the first and second input device,  
3            respectively, such that actuation of the respective activator results in a key press event  
4            at the keyboard on the display.

1       68. The apparatus of Claim 67 further comprising:  
2            a location buffer, the location buffer to store location data for one input  
3            device prior to actuation and again after actuation to permit compensation for  
4            translation during actuation of the input device.

1       69. The apparatus of Claim 60 wherein the display is a binocular display.

1       70. The apparatus of Claim 69 further comprising an imaging unit.

1       71. An apparatus comprising:  
2            a camera;  
3            a display integrated into the camera, the display having a first region to  
4            display first image at a full display resolution; and  
5            a second region to simultaneously display a second image at substantially  
6            reduced resolution.

1       72. The apparatus of Claim 71 wherein the second region is an inset within  
2            the first region.

1       73. The apparatus of Claim 71 wherein the first image and the second image  
2            may be toggled between a current view of the camera and a previously captured image.